An Roinn Oideachais
agus Scileanna
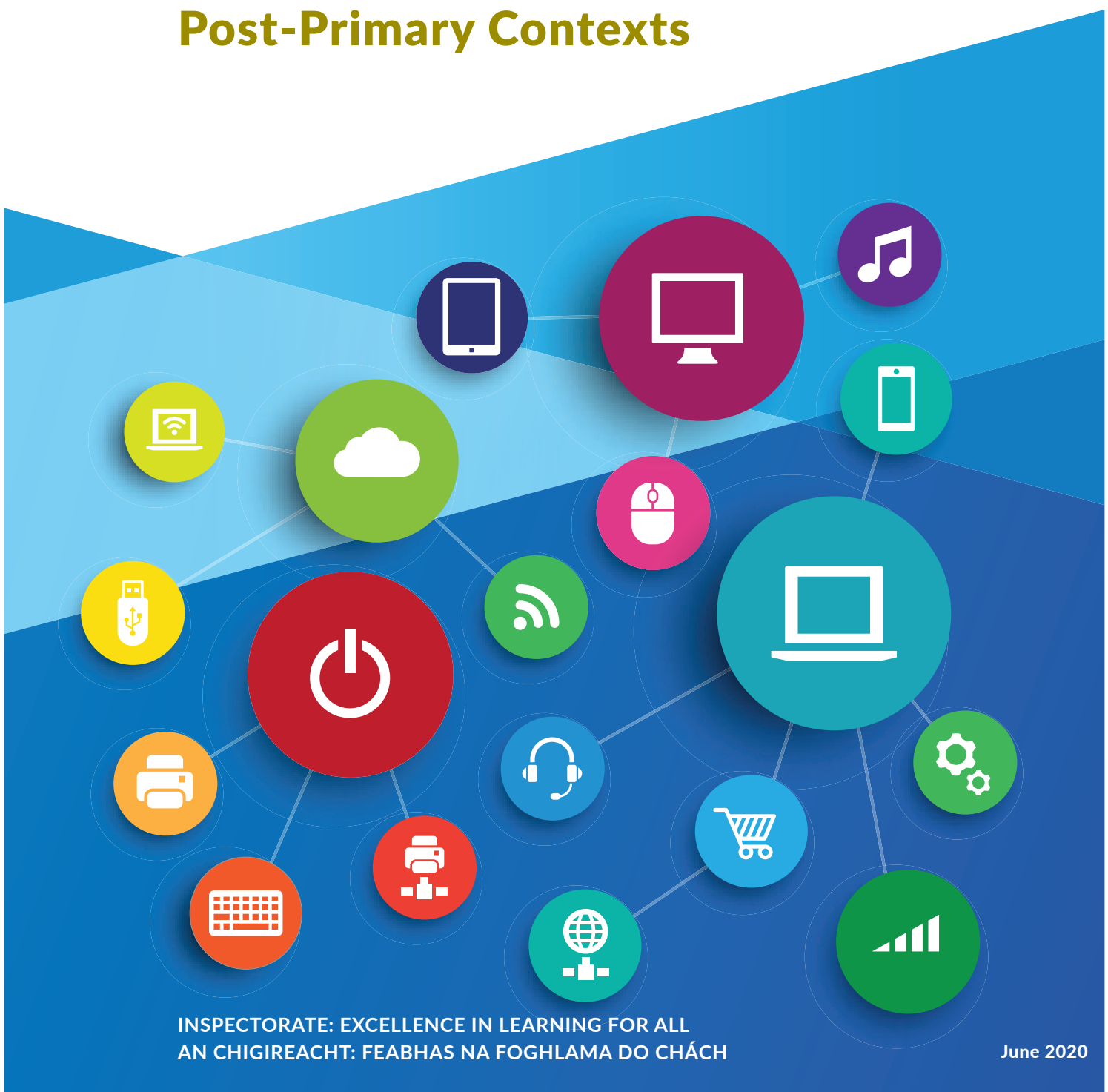Department of
Education and Skills

# Digital Learning 2020:
## Reporting on practice in Early Learning and Care, Primary and Post-Primary Contexts

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## Reporting on practice in Early Learning and Care, Primary and Post-Primary Contexts

**Inspectorate**

**Department of Education and Skills**

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# 1 Introduction

## 1.1. Purpose of this report

This report presents the findings of an evaluation of digital learning, conducted by the Inspectorate of the Department of Education and Skills, in a sample of early learning and care (ELC) settings, primary schools and post-primary schools, during the period January to December 2019. One of the objectives of the *Action Plan for Education 2016-2019* was to 'increase the use of ICT in teaching, learning and assessment so that learners are equipped with the necessary skills to meet the challenges of a rapidly changing learning environment.'[1] The report focuses on three key questions:

1 How effectively are digital technologies integrated into teaching, learning and assessment in primary and post-primary schools?

2 How well are schools planning for the use of digital technologies?

3 How are digital technologies being used in early learning and care (ELC) settings?

This report provides a snapshot of how digital technologies are incorporated as part of pedagogy in the ELC settings and schools visited during the evaluation in 2019. It highlights some of the emerging themes, and places a spotlight on practices observed. The report is designed to inform actions to ensure that national goals in relation to the use of digital technologies can be met in a way that equips learners with the skills and competencies they need in an ever-changing world. The document is intended also to be a resource for practitioners, teachers and schools leaders at early years, primary and post-primary levels, by providing illustrations of effective digital practices observed in the course of the evaluation project.

This report was prepared before COVID-19 became a reality. Little did anyone realise at the time of writing, how speedily all schools and teachers would have to learn about online platforms and modes of delivery. While the report presents the findings of an evaluation that took place in 2019, an additional chapter has been added to reflect the current situation in our schools and to describe some of the current teaching and learning practices and challenges for schools.

Integrating digital technologies into teaching and learning, and embedding digital technologies into curriculum and assessment processes in schools, are vital development goals for the education system. Many schools have used the school self-evaluation (SSE) process to integrate and embed digital technologies into learners' experiences. It is also appreciated that in ELC

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1    Action Plan for Education 2016-2019, P. 23.

settings (0 to 5 years), consideration of the appropriate use of digital technologies has only just begun. It will take time for the ELC sector to reach an agreed approach on how best to lay the foundations for digital learning and thinking skills. However, the positive findings from both the ELC sector and from schools highlighted in this report are to be welcomed and provide a sound basis on which to build for the future.

## 1.2 Background

Digital technologies are prevalent in all aspects of our daily lives and will form part of the lives of the learners of today in ways that we cannot currently even imagine. Careers of the future will involve technologies that have yet to be developed. Skills in the area of digital technologies, including creativity, adaptability and openness to new technologies, are important for the learners in their lives today as well as for their lifelong learning.

There is wide acknowledgment internationally that digital technologies should be an integral part of learners' experiences in schools. There is much international research[2] on the importance of fully embedding digital technologies into the teaching, learning and assessment processes in schools. When used effectively as part of teaching and learning, digital technologies facilitate learners to collaborate, to solve engaging real-world problems, to research and analyse information, to communicate their ideas, and to share what they create with others beyond the walls of their classrooms.

The use of digital technologies and information and communications technologies (ICT) as part of teaching and learning in Ireland is not a new concept. There have been a number of government strategies and initiatives over the last two decades to encourage and promote the use of digital technologies with and by learners. Many Irish schools have embraced these challenges and developed innovative ways of incorporating digital technologies into learners' experiences.

Recent curriculum reforms in schools have emphasised the importance of digital technologies and include statements of learning that focus on developing digital learning skills. For example, in the context of the Framework for Junior Cycle, digital technologies are embedded across the framework's key skills and a number of short courses in the area of digital technologies have been developed by the National Council for Curriculum and Assessment (NCCA), while at senior cycle, Computer Science has recently been introduced. At primary level, a new mathematics curriculum, which reflects the importance of computational thinking is being prepared. Digital technologies will also be evident in the review and redevelopment of the primary school curriculum, with the inclusion of 'Being a digital learner' as a key competency. A draft is due to be published for consultation in 2020.

In the ELC sector, *Aistear, the Early Childhood Curriculum Framework*, provides the curricular context for young children's learning and development.[3] While *Aistear* doesn't set specific expectations for digital learning, it does suggest possible opportunities for practitioners to integrate digital technologies into the learning experiences of children.

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2    For example, the literature review as part of the consultative paper created to inform the development of the Digital Strategy for Schools: https://www.education.ie/en/Schools-Colleges/Information/Information-Communications-Technology-ICT-in-Schools/Digital-Strategy-for-Schools/Building-Towards-a-Learning-Society-A-National-Digital-Strategy-for-Schools-Consultative-Paper.pdf

3    Aistear, the Early Childhood Curriculum Framework: https://www.ncca.ie/en/early-childhood/aistear

## 1.3  Digital learning: The school context

### 1.3.1 Digital Strategy for Schools
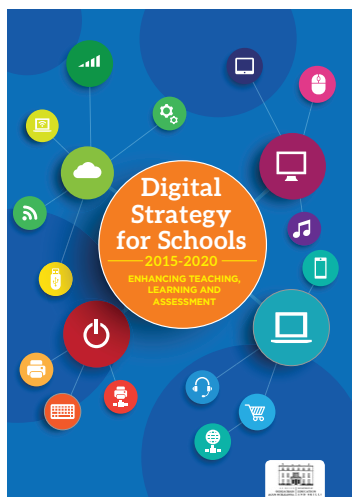


The key guiding policy resource for schools is the *Digital Strategy for Schools 2015 – 2020*. It communicates the vision of the Department of Education and Skills for digital learning:

*To realise the potential of digital technologies to enhance teaching, learning and assessment so that Ireland's young people become engaged thinkers, active learners, knowledge constructors and global citizens to participate fully in society and the economy.*[4]

It sets out a programme to embed technologies and digital learning tools in the learning experiences of children and young people in primary and post-primary schools. Central importance is placed on the integration of digital technologies into teaching, learning and assessment. The Strategy advocates for a constructivist pedagogical orientation; that is, an approach to teaching and learning where learners engage actively and collaboratively in a process of determining meaning and knowledge for themselves.[5]

Four key themes are identified in the *Digital Strategy for Schools* to support the use of digital technologies in schools:

- Theme 1: Teaching, Learning and Assessment using Digital Technologies

- Theme 2: Teacher Professional Learning

- Theme 3: Leadership, Research and Policy

- Theme 4: ICT Infrastructure

Significant financial support is being provided to all primary and post-primary schools on an annual basis over the lifetime of the Strategy. All schools are required to develop a Digital Learning Plan appropriate to their own context to support improvements in teaching, learning and assessment using digital learning. A suite of supports was put in place to support schools, including access to continuing professional development (CPD) for individual teachers, seminars for school leaders, a repository of teaching resources (*Scoilnet*), resources to support online safety, and guidance on ICT infrastructure.

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4    *Digital Strategy for Schools 2015 - 2020*, p. 5.

5    *Digital Strategy for Schools 2015 - 2020*, p. 8.

### 1.3.2 Digital Learning Framework

Digital Learning Framework for Primary Schools

Digital Learning Framework for Post-Primary Schools
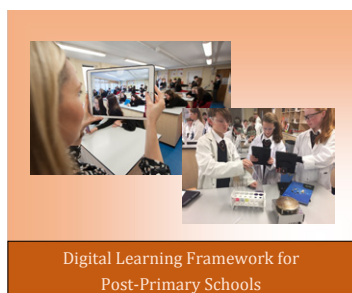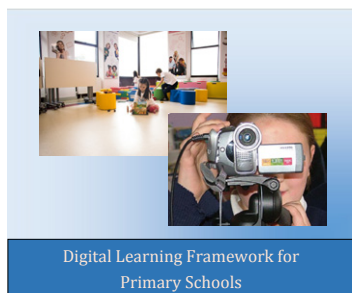
An early key action of the Strategy was to develop the *Digital Learning Framework* (DLF). This framework localises the *UNESCO Digital Competence Framework* to the Irish context for both primary and post-primary schools. The *Digital Learning Framework* directly aligns to the domains and standards of *Looking at Our School 2016.* Its purposes are:

- To outline what effective and highly effective practice in the use of digital technologies looks like in schools

- To support schools and teachers to reflect on and self-evaluate their own practice

- To support schools and teachers to plan for and bring about improvement in the use of digital technologies as part of teaching, learning and assessment

- To inform teacher professional learning, including CPD

The *Digital Learning Framework* was made available for use to all schools in 2018/19. Additional resources were provided to support schools in their use of the Framework. These include planning supports[6] and video exemplars of good practice from Irish classrooms captured by the Professional Development Service for Teachers (PDST). A three-year longitudinal study by the Educational Research Centre (ERC) on the impact and use of the *Digital Learning Framework* commenced at the start of 2019. An initial report with baseline data was published in January 2020[7] and two further reports will be published from the study to help inform national policy and CPD.

## 1.4 Digital Learning: The early learning and care context

While the *Digital Strategy for Schools* specifically addresses the formal school system, the foundations for digital learning begin in early childhood. In recent years, the importance of transitions between the ELC setting and the primary school, and between the primary school and post-primary school have come into sharper focus in Ireland. It is important to consider the development of children and young people's skills, knowledge and competences across their whole learning experience. Through active, playful and enquiry-led engagement, young children are supported to acquire the foundations for digital learning that are deepened and refined as they move through the education system. Digital technologies and ICT are mentioned as part of children's learning in *Aistear, the Early Childhood Curriculum Framework*. However, there is not yet consensus as to whether or how digital technology should be used by young children as part of their daily experience within ELC settings, and how this might depend on the age of the child.

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6    https://www.dlplanning.ie/

7    http://www.erc.ie/programme-of-work/dlf/

# 2 The Evaluation Project

## 2.1. Focus

The Inspectorate of the Department of Education and Skills (DES) evaluates and reports on the quality of educational provision for learners in ELC settings, schools and centres for education. The Inspectorate also provides advice and support to ELC practitioners, teachers and those involved in the leadership, management and patronage or ownership of these settings in relation to actions that need to be taken to improve educational provision. Through discussion, reporting and publication, the Inspectorate disseminates the findings of its evaluations and publishes advice on how the work of education providers and the learning of children and young people can be improved.

This evaluation focused on theme one of the *Digital Strategy for Schools* - Teaching, Learning and Assessment using Digital Technologies, and is designed to:

- Encourage and facilitate discourse around the current use of digital technology in schools and ELC settings

- Provide illustrations of good practices in the use of digital technologies in schools

- Provide information about digital learning in order to inform further implementation of national policy in relation to the use of digital technologies in education and against which future progress in implementing policy can be assessed.

As noted earlier, this report explores the three key questions below by drawing on findings from evaluations in a sample of ELC, primary and post-primary settings:

1. How effectively are digital technologies integrated into teaching, learning and assessment in primary and post-primary schools?

2. How well are schools planning for the use of digital technologies?

3. How are digital technologies being used in early learning and care settings?

## 2.2. Methodology

A digital learning working group comprising early-years, primary and post-primary inspectors was convened in late 2018. This group set about gathering information, observing practice and discussing schools' and settings' approaches to digital learning in the context of the *Digital Strategy for Schools* and, in particular, the focus of Theme 1 of that strategy, how digital technologies are integrated into teaching, learning and assessment in schools. The inspectors developed a number of specific digital learning evaluation criteria to be incorporated into inspection instruments.  Between January and October 2019, inspectors, using those criteria, looked at how digital technologies form part of children and young people's learning, how teachers and ELC practitioners use technologies as part of their practice, and how schools are planning for digital learning.

A convenience sampling strategy was used. The table below shows the models of inspection across the three sectors in which inspectors gathered information for this report.

| Early-years | EYEI (Early-years Education Inspection) |
|---|---|
| Primary | Incidental Inspections, Curriculum Evaluations and Whole-School Evaluations |
| Post Primary | Incidental Inspections, Subject Inspections and Whole-School Evaluations |

Two key methods were used in the course of inspections to gather information related to the digital learning evaluation criteria: observation of teaching and learning in lessons, observation of ELC sessions, and discussions with ELC practitioners and school leaders.

### 2.2.1. Observing teaching and learning

Inspectors observed teaching and learning activities across a range of subjects in primary and post-primary schools. In addition, they observed activities during ELC sessions where they focused on questions such as:

| Did children use digital technologies during their play and activities? | Were children able to actively choose and use digital technologies during their play and activities? | Do practitioners use digital technologies as part of the assessment process? |
|---|---|---|

In primary and post-primary contexts, inspectors focused on questions such as:

| | | | |
|---|---|---|---|
| **Was digital learning a feature of the lesson?** **If it wasn't, would the learning have been better if it had been?** | **Were learners actively using digital technologies as part of learning?** | **Did learners collaborate with others using digital technologies?** | **Did learners use digital technologies to create new knowledge or digital artefacts?** |
| **Did teachers use digital technologies to creatively engage and challenge learners?** | **Did learners use digital technologies to self-assess and reflect on their learning?** | **Were teachers using digital technologies as part of the assessment process?** | |

The table below shows the number of learning sessions or lessons where inspectors gathered digital learning information related to the above questions:

| Sector | Number of lessons / sessions observed |
|---|---|
| **ELC** | 39 |
| **Primary** | 212 |
| **Post-primary** | 194 |

### 2.2.2 Interviews and conversations

During some evaluations, inspectors had discussions with school leaders, teachers and ELC practitioners about how the setting or school viewed and planned for digital learning. In primary and post-primary schools, as part of those discussions, inspectors reviewed the school's digital learning plan to see how the *Digital Learning Framework* was being used to support action planning for improvement in digital learning.

In the ELC settings, inspectors explored the following questions through discussion with the practitioners or owner/manager of the setting:

| | | |
|---|---|---|
| **Is the setting thinking about building the foundations for digital learning?** | **Are digital technologies in use by the setting to facilitate reflection on practice/CPD?** | **Are digital technologies used by the setting to communicate about children's learning with parents and families?** |

In their discussions with primary and post-primary school leaders and teachers, inspectors explored questions such as:

| Does the school have a Digital Learning Plan? | Was the plan informed by the *Digital Learning Framework*? | Were clear actions to improve digital learning contained in the plan? |
|---|---|---|

The table below shows the number of settings and schools where inspectors had discussions with school/setting personnel about planning for digital learning.

| Sector | Number of ELC settings or schools where interviews and conversations about digital learning occurred |
|---|---|
| ELC | 33 |
| Primary | 33 |
| Post-primary | 24 |

To ensure consistency and inter-rater reliability among inspectors in relation to the application of the digital learning evaluation criteria, all of the criteria were reviewed by inspectors from all three sectors (ELC, primary and post-primary) and the approach to applying the criteria was standardised. Inspectors then assigned quality levels to schools using the Inspectorate's quality continuum for primary and post-primary schools, as set out in the table below. Given the lack of an agreed approach to the use of digital technology in ELC settings, the quality continuum was not applied to ELC settings.

| Rating | Description |
|---|---|
| Very Good | *Very good* applies where the quality of the areas evaluated is of a very high standard. |
| Good | *Good* applies where the strengths in the areas evaluated clearly outweigh the areas in need of improvement. |
| Satisfactory | *Satisfactory* applies where the quality of provision is adequate. |
| Fair | *Fair* applies where, although there are some strengths in the areas evaluated, deficiencies or shortcomings that outweigh those strengths also exist. |
| Weak | *Weak* applies where there are serious deficiencies in the areas evaluated. |

Inspectors' ratings were analysed using the five quality levels above. They were further aggregated into *satisfactory or better* and *less than satisfactory*. *Satisfactory* or *better* includes the quality ratings *satisfactory*, *good* and *very good*. *Less than satisfactory* includes the quality ratings *fair* and *weak*.

Where inspectors saw positive practices involving aspects of digital learning in schools, they documented them as short case studies to describe how digital technologies were enhancing children and young peoples' learning.  Some of these case studies are used to exemplify the findings and emerging themes in the next section.

The case studies of ELC settings are snapshots of practice observed by inspectors, and are not intended to be seen as recommended examples of good practice.

# 3 How effectively are digital technologies integrated into teaching, learning and assessment in early learning and care settings and in primary and post-primary schools?

## 3.1. The use of digital technologies in learning

Using digital technologies as part of learning has the potential to make learning in schools more engaging and to deepen how children and young people learn particular topics. Inspectors found that digital learning was part of the lesson in 55% of lessons observed in primary schools and in 62% of lessons observed in post-primary schools. Whether and how to use digital technologies as part of learning in ELC settings – and whether good practice may vary according to the age of the child – is a matter for ongoing consideration.

*Use of digital technologies in lessons observed*

*Learning would have been enhanced if digital technologies were used*
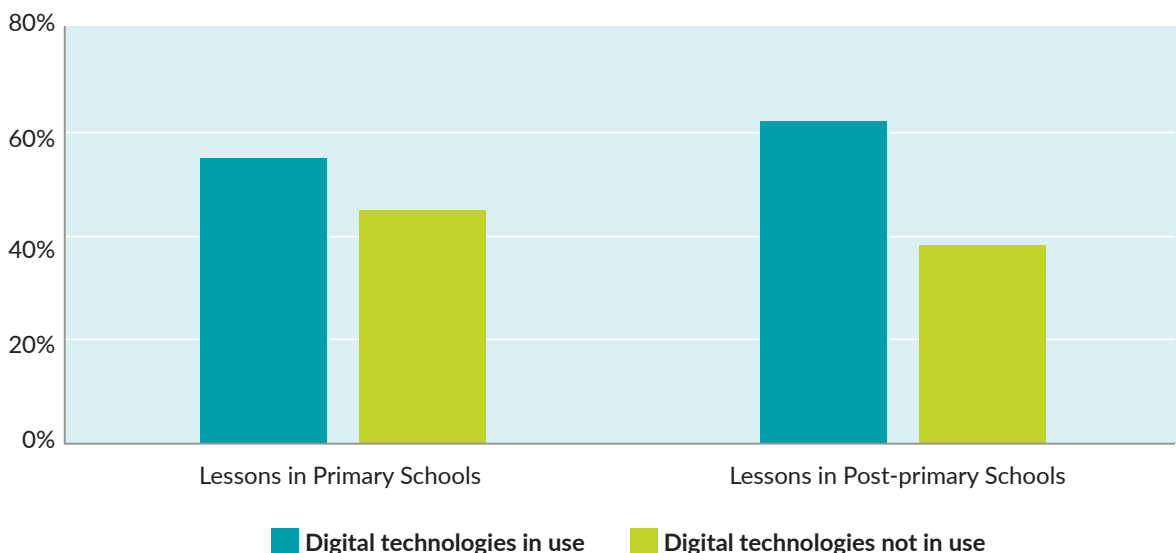


Learning would have been enhanced if digital technologies were used
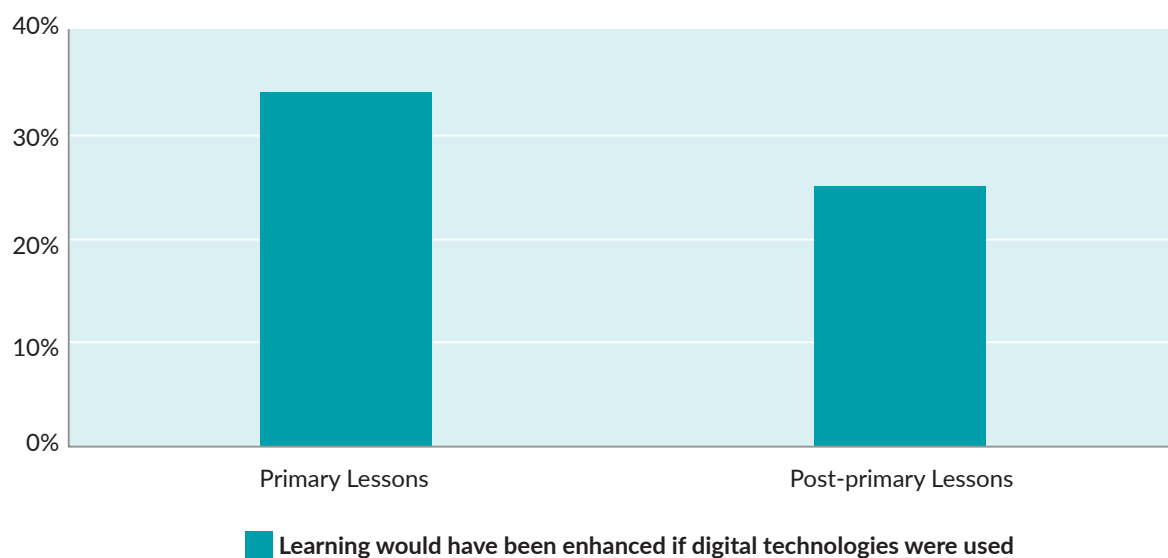
In lessons where digital technologies were not a feature of the learning, inspectors considered whether or not the learning would have been better if they had been used. Inspectors suggested that learning would have been better if digital technologies had been used in 34% of primary lessons and in 25% of post-primary lessons in the sample.

Overall, inspectors' findings are showing that there is scope to use digital technologies more regularly as part of teaching and learning in schools and that their use would improve learning for children and young people in many instances.

## 3.2. Using digital technologies actively and collaboratively in learning

Inspectors noted that in 86% of the primary lessons and 81% of the post-primary lessons where digital technologies were used, they were used to a satisfactory or better degree by teachers to creatively engage learners. This is a positive finding in and of itself. However, inspectors also reported that in some lessons observed, the digital technologies were used solely by the teachers and were not used by the learners.

The *Digital Strategy for Schools* advocates the use of digital technologies in schools in a constructivist way. This involves learners using technologies actively, sometimes in collaboration with others, as part of their learning. Inspectors found much encouraging practice in this regard in classrooms in primary and post-primary schools.

*Active and collaborative use of digital technologies during lessons in primary and post-primary schools*
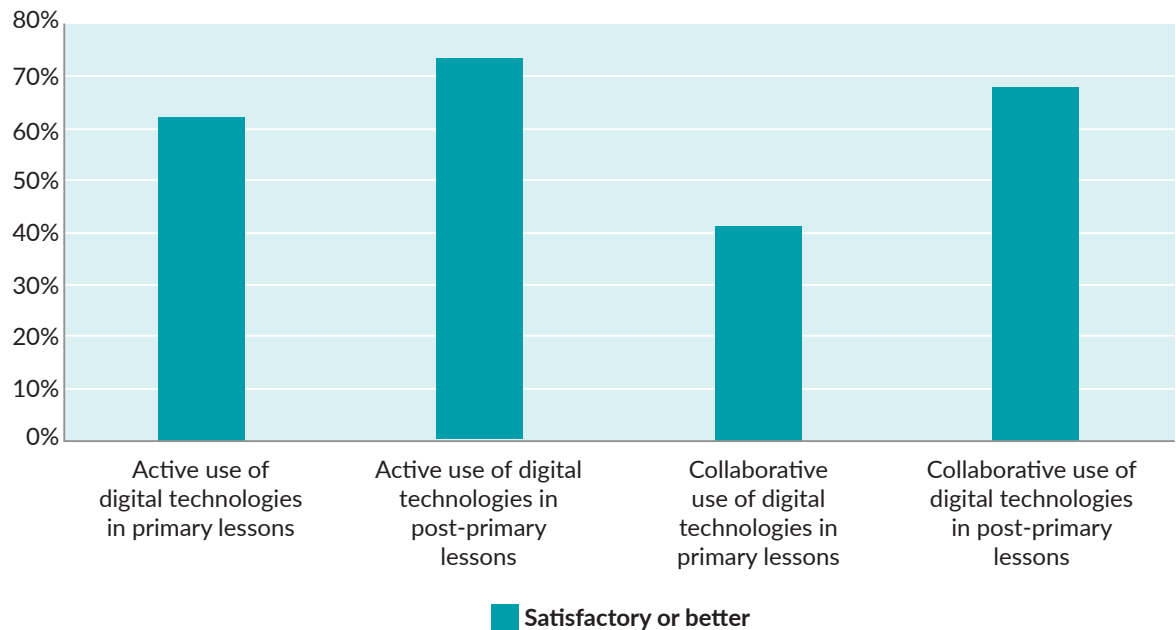


Where the lesson involved digital learning, it was encouraging that inspectors found that learners' active use of digital technologies was satisfactory or better in 72% of post-primary lessons and in 62% of primary lessons. The level of collaboration with other learners in the use of digital technologies was also encouraging in post-primary schools with almost 68% of lessons having learner collaboration that was satisfactory or better. In primary schools, the level of collaboration with other learners was significantly lower, with just 41% of lessons having learner collaboration that was satisfactory or better.

### 3.2.1. Spotlights on effective digital practices involving active and collaborative learning

There were many positive examples of effective digital practices involving active and collaborative learning encountered by inspectors in the course of the evaluation work. Two are highlighted below.

## DIGITAL SPOTLIGHT 1

In one special school, a wide variety of digital technologies was being used to support learners to engage actively in their learning. Tablets and applications were used to facilitate the development of pupils' receptive and expressive language skills. Pupils used them to acquire and comprehend language and to communicate their learning experiences and outcomes. A relevant innovation in the school was the creation of an interactive floor. Pupils moved on the floor to explore a range of themes, for example sea life. They explored cause and effect and received visual and sensory feedback as they engaged with the interactive floor. Virtual reality headsets had been acquired to accommodate the needs of a pupil in creating contextual links. Groups of pupils worked together to create videos and films on a variety of topics. The school had also engaged with the FíS Project, a film making programme for primary schools that is facilitated by PDST and Dún Laoghaire Institute of Arts Design and Technology (IADT).

## DIGITAL SPOTLIGHT 2

In a post-primary music lesson with a Transition Year group, the lesson commenced with a video clip, created by the teacher, of dinosaurs walking around their school. This engaged the learners and was an effective hook which added excitement and an air of anticipation to the lesson. In advance of the lesson, the teacher had placed scan codes around the room and students had to scan the codes using their tablets to obtain important pieces of information to help them to create a profile for their own dinosaur.  Then, taking that information, and working in groups of four, they used an application on their tablets to create a piece of music that best represented their particular dinosaur. As a group, the students created a musical soundscape to represent the personality of their dinosaur. They drew on musical skills acquired in other lessons and worked collaboratively to agree a final piece, before sharing it with the rest of the class. The use of digital technologies enhanced significantly both the experience and outcomes for the students in the lessons.

## 3.3. Using digital technologies to create new knowledge, content and artefacts

Learning using digital technologies is often associated with researching topics and retrieving information. The *Digital Strategy for Schools* and the *UNESCO ICT Competency Framework* place importance on providing opportunities for and supporting learners to use digital technologies to create new knowledge, content and artefacts.[8] The use of digital technologies in this way is a higher-order skill and provides deeper learning.

*Creating new knowledge and digital artefacts*
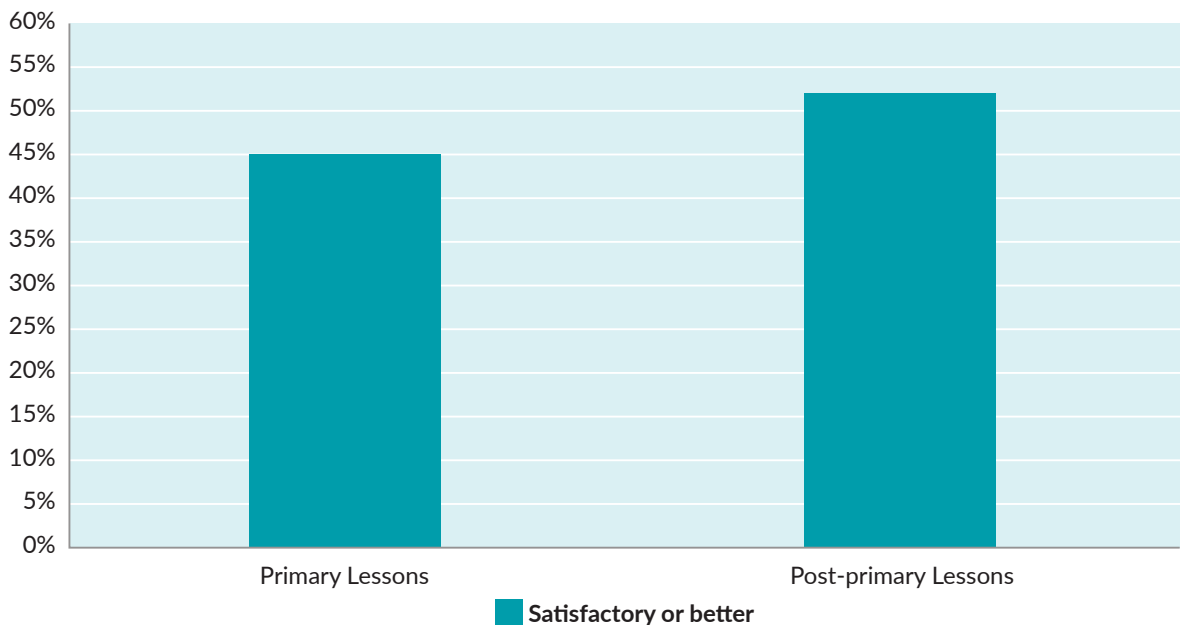


Overall, inspectors identified that the creation of new knowledge and digital artefacts was not a well-established practice in the lessons observed. In just 44% of primary lessons and 52% of post-primary lessons, inspectors rated this aspect of the use of digital technologies to be satisfactory or better. This points to a large proportion of lessons where this was not a feature of the learning in both primary and post-primary contexts.

In discussions with teachers and leaders, inspectors learned that this is an aspect of digital learning that many schools are finding challenging.

### 3.3.1. Spotlights on effective digital practices involving knowledge and content creation

Inspectors noted some examples of knowledge and content creation in ELC settings and in primary and post-primary schools.

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8    *Digital Strategy for Schools*, p. 20

## DIGITAL SPOTLIGHT 3

In one ELC setting, the children had opportunities to take a tablet to create a video of themselves talking about and showing their learning, and they were supported by one of the adults in the setting to send that video to their parent(s) electronically . The practitioners also referred to times when children in the group had independently taken photographs and videos of events at home and arranged for them to be sent in to the setting. The ELC setting leaders were of the view that the two greatest benefits in using these types of technologies were the opportunities that they provided for children to use language to describe their learning in the videos, and the communication about learning that they enabled between the setting and home.

## DIGITAL SPOTLIGHT 4

One primary school was working with other schools in the locality on digital learning as part of the School Excellence Fund. Practice had been developed in several areas around the use of digital technologies in the classroom. An outstanding piece of work in terms of the creation of new knowledge and artefacts involved the use of drone technologies. The children had learned about drone technologies and were using simple drones to photograph places in their own locality. They had captured an array of aerial photographs that informed them about their locality from historical, geographical and scientific perspectives. These new perspectives on places in their locality were used to very good effect to stimulate discussion and support pupils' learning in social, environmental and scientific education (SESE) subjects.

## DIGITAL SPOTLIGHT 5

In one post-primary school, as part of the study of History, there was very good practice in the creation and sharing of new content. Learners in second year created short animations on historical topics that were of interest to them. They shared these animations and discussed their learning with students from other countries on an online platform for schools participating in an exchange project. Students in Transition Year worked in teams to create documentaries based on historical events. The students themselves researched the content and collaborated to create story boards and write scripts; they did all of the pre-production work, acting, the recording of voice overs and captured the necessary video footage. They also engaged in all of the post-production editing using a variety of software packages. All of the documentaries were screened as part of a history initiative and were published online subsequently.

## 3.4. Digital technologies supporting assessment

A key advantage of integrating digital technologies into learning is the support it can provide to the assessment process in settings and classrooms. There is a variety of accessible digital platforms that can support self-assessment and peer assessment.  There are also applications available to support practitioners and teachers to easily check on learning and progress, and to provide real-time, meaningful feedback.

*Use of digital technologies to support assessment*
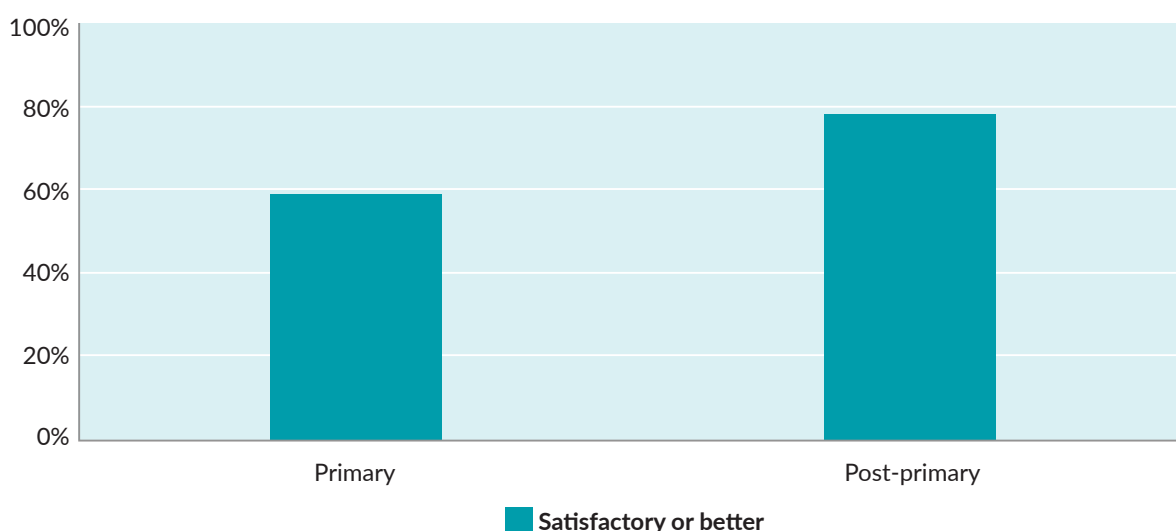


In ELC settings, inspectors found many examples of the use of digital technologies by practitioners to support the assessment process.

The use of digital technologies as part of the assessment process was satisfactory or better in just under 60% of lessons in primary schools where digital technologies were used. There was evidence that the use of digital technologies to support assessment is more established in post-primary lessons, with inspectors finding the use of digital technologies to be satisfactory or better in just under 80% of lessons.

### 3.4.1. Spotlights on effective assessment practices involving digital technologies

There were many examples of positive assessment practices involving the use of digital technologies encountered by inspectors in the course of the evaluation work.

## DIGITAL SPOTLIGHT 6

In one ELC setting the practitioners used technology as part of assessment. Digital technologies were used to capture children's learning experiences and their products of learning. The practitioners used video technologies and cameras and the children were very comfortable in using these technologies for their own learning. Practitioners recorded children talking about their learning and created videos and digital stories about the learning journeys. These resources were available to parents and families via the setting's blog and WhatsApp, both of which allowed parents and families to be part of the learning conversation and to celebrate the children's learning.

## DIGITAL SPOTLIGHT 7

In a primary school with nine teachers, well-developed practices with regard to assessment were noted. Over the previous year, the staff had many conversations about using digital technologies and, in particular, how they might use the set of tablets that they had bought to support assessment in classrooms. Two applications, Popplet and Padlet were used commonly across the school. Popplet was used to support pupils to reflect on and think about their own learning. One way in which they did this was by creating individualised KWLs (A format to think about learning: What I already **K**now, What I **W**ant to find out, what I have **L**earned). Their individual KWLs were linked to an overall class one. The pupils updated it as the lesson went on and provided the teacher with instant feedback as they engaged with new topics. Padlet was also in use in the senior classes. The teachers were skilfully using this application to allow pupils to contribute, but were also using it to provide individual feedback to pupils. The pupils were particularly positive about how Padlet was helping them to reflect on their learning and make it better.

## DIGITAL SPOTLIGHT 8

In a senior cycle post-primary Physical Education (PE) lesson, the video capture function on tablets was used to very good effect to support self assessment and peer assessment. Students worked in pairs and recorded each other performing a hand-passing drill as part of lessons that focused on Gaelic football skills. The students used the slow motion playback function on the tablet to review their performance in a focused, analytical manner. They were able to prompt each other on how their skills might be improved and applied these improvements in a second run of the drill that was also recorded.

# 4 How well are schools and early learning and care settings planning for the use of digital technologies?

As with any form of improvement and change in practice, planning for implementation is a key part of the process. Planning allows practitioners and teachers to reflect on their current practice and have conversations about the things that would make practice better. The planning process can be very helpful in creating a shared vision and for agreeing common pedagogical approaches.

An important context factor here is that ELC settings are not required to develop a digital learning plan. Inspectors asked ELC practitioners and owners/managers about how they were thinking about digital learning. Inspectors found that the majority of the ELC settings had given some consideration to planning for building the foundations of digital learning.

An important action of the *Digital Strategy for Schools* was to provide grant aid over a number of years to all schools to support the development of digital learning. All schools were asked to develop a digital learning plan to help them to embed digital technologies in teaching, learning and assessment in their school. Schools were encouraged to draw on the *Digital Learning Framework* and to use the six-step School Self-Evaluation (SSE) process in developing their plan. To support schools with the process, PDST advisors facilitated a seminar on planning for digital learning, and the principal and another teacher from every school were invited to attend.

## Had the school a Digital Learning Plan?
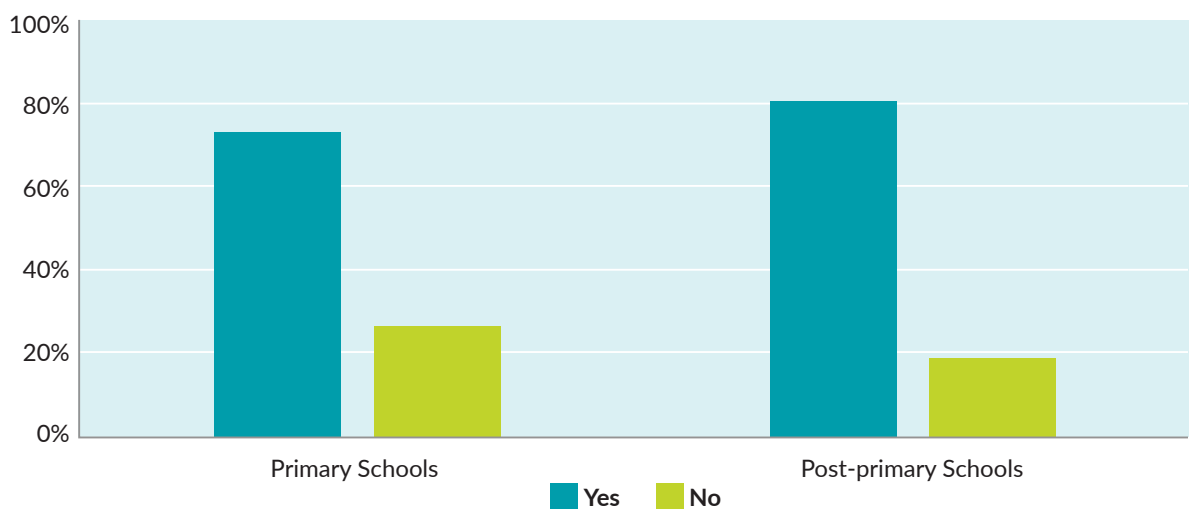
Inspectors found that 73% of primary schools and 81% of post-primary schools had developed a Digital Learning Plan at the time of the evaluation.

*Quality of the Digital Learning Plans*
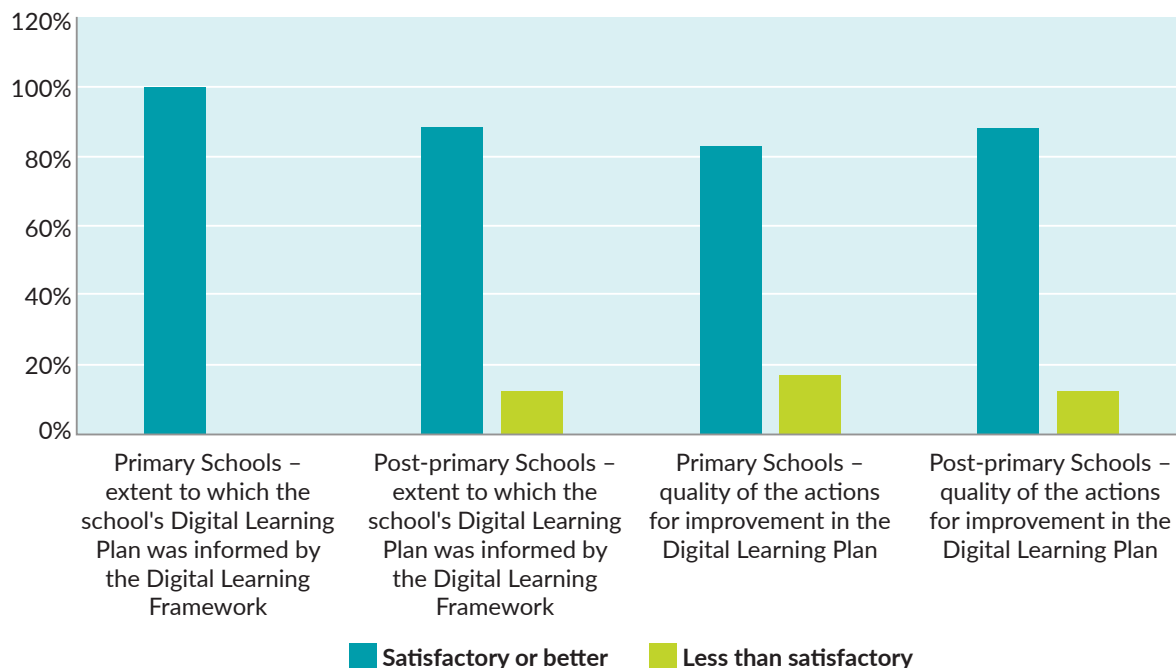


The evidence from the schools that had a Digital Learning Plan is very encouraging. Of those schools that had a plan, all of the primary schools and 88% of the post-primary schools had drawn to a satisfactory or better extent on the *Digital Learning Framework*. Inspectors also reviewed the improvement actions that schools had identified in their digital learning plans. In the plans examined, inspectors rated the actions to be satisfactory or better in 83% of plans in primary schools and in 88% of plans in post-primary schools.

Each school has its own unique circumstances and is on its own journey to develop the use of digital technologies as part of teaching and learning. Many primary and post-primary schools reported that their knowledge of the six-step SSE process was helping them to improve digital learning in a manageable and incremental way. Some schools were making meaningful links between digital learning and the priority areas that they had identified for school improvement using the SSE process.

## 4.1. Spotlights on effective planning for digital learning

The tables below place spotlights on planning for digital learning in an ELC setting and in a primary and post-primary school.

**DIGITAL SPOTLIGHT 9**

In one medium-sized ELC, the four practitioners had discussed where they could integrate digital technologies into children's learning experiences. They used the *Aistear Síolta Practice Guide* to guide their reflection. They agreed on three key actions to develop digital learning in their context. The first was to make items relevant to digital learning available for children to choose as part of their play. The second was to support children to make videos using tablets of themselves and their work and play. The final action was to take photographs of children as they engaged in their play and use them each day to support children to talk about their learning and achievements. The practitioners reported that they were conscious of these actions and that by making these small changes in their practice, they were using digital technologies on a more regular basis. They also suggested that they were now beginning to try to use digital technologies in other ways beyond the initial actions.

**DIGITAL SPOTLIGHT 10**

In one DEIS (Delivering Equality of Opportunity in Schools) primary school, digital technologies were integrated successfully into teaching and learning in all of the classrooms visited. This was as a result of action planning by teachers and school management over a number of years. As part of its DEIS action planning for improvement involving the SSE process, the teachers always included actions around digital technologies. They said that they had started with small actions and over time built on them. One of the key factors that they thought about was training and CPD for teachers. They organised customised training for staff in the school based on their agreed actions. Their most recent improvement actions focused on the introduction of Google Classroom in all learning settings. In several classrooms, the platform was in use by pupils to upload samples of their work, photographs, videos and word documents, and by teachers to monitor pupils' work and provide written feedback. Each pupil had their own account created by a teacher and was building an online portfolio of their work throughout the school across a range of subjects.

**DIGITAL SPOTLIGHT 11**

In one post-primary school, digital learning was central to the vision for learning since it opened. Practice developed gradually with a particular focus on student engagement. A wide range of applications and online tools was used and creative use was made of applications in the Microsoft 365 suite. A focus group of teachers trialled more regular use of Microsoft One Note to share teacher-created and teacher-curated resources with students. In feedback, students said that they found lessons to be more engaging as a result of the use of these digital tools, and that their learning was better. The practice was adopted by the entire staff. Across all subjects, teachers sourced and created digital resources to support teaching and learning. The school also introduced e-portfolios for all students. The common approaches meant that students were very familiar with the platforms and the software. Teachers supported each other and shared expertise and continued to develop teaching and learning approaches collaboratively. In tandem with the development of teaching and learning practices, the school management and staff also felt it was very important that students discussed regularly and learned about the safe and ethical use of digital technologies and about internet safety and cyber-bullying.

# 5 What other themes are emerging?

As well as the findings in relation to the five key themes identified in the previous section, a number of other themes emerged in discussions with settings and schools.

## 5.1. Digital learning in the early learning and care (ELC) sector

In a number of ELC settings, owner/managers and practitioners reported to inspectors that they were unsure as to how to approach digital learning in a way that was appropriate to the age of their learners.

## 5.2. Progression in the use of digital technologies

Inspectors reported that where digital technologies were in use in schools, learners sometimes experienced the same applications and activities in different classes and year groups without obvious adjustment for their ages or stages of development. The *Digital Learning Framework* supports schools to deepen and improve learners' use of digital technologies. Many teachers were not aware of the Framework or of the good practice videos available through PDST. The Framework provides examples of effective and highly effective practice and highlights how learning can be deepened and how digital technologies can be used progressively.

## 5.3. Teacher and practitioner learning

CPD is a key factor for schools in embedding digital technologies in learning. Schools that were experiencing success reported that they had engaged in learning together that was focused on their particular needs. They had received input both within school and from external providers. Some primary and post-primary schools reported that they were unaware of supports such as *Scoilnet* and that they were unsure how to access external CPD, although this facility is available from PDST.[9] ELC settings suggested that there were very few opportunities available for them to engage in CPD around digital learning.

## 5.4 Risk of using digital devices passively in the classroom

Inspectors noted that in a small proportion of lessons observed in schools, digital devices were used in a passive way by the learners and not integrated appropriately into the teaching and learning. In some of these cases, technologies were used solely for display purposes by the

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9    Schools can apply for customised school support from PDST at www.pdst.ie/schoolsupport

teacher. In other cases, devices were being used inactively in a similar way to text books, and their potential to enhance learning and assessment was not realised.

## 5.5 Infrastructure

ELC practitioners and school principals/teachers reported to inspectors that infrastructure and access to high-speed connectivity was an important factor in the integration of digital technologies. While almost all post-primary schools had access to good quality broadband, many primary schools and ELC settings did not. Where practice was well-developed, it was reported to inspectors that having access to high-speed and dependable broadband was one of the key supporting factors. Where connectivity problems existed, leaders, teachers and practitioners reported a reluctance to use digital technologies as it often frustrated learners' experience and diminished teachers' and practitioners' confidence with the technologies.

## 5.6 Safe and ethical use of digital technologies

In a number of settings and schools, practitioners, teachers and leaders spoke to inspectors about the importance of providing learning for children and young people about the safe and ethical use of digital technologies. Recent research from the OECD[10] emphasises the importance of this kind of learning for emotional well-being and resilience in the digital age. Initial conversations about this are important from the early years onwards. Many schools and settings are providing solid programmes of learning, both as part of SPHE and incidentally, as children and young people engage with digital technologies. Resources to support learning about the safe and ethical use of digital technologies are available from the Department of Education and Skills funded initiative Webwise.[11]

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10    Burns, T. and F. Gottschalk (eds.) (2019), *Educating 21st Century Children: Emotional Well-being in the Digital Age*, Educational Research and Innovation, OECD Publishing, Paris.

11    www.webwise.ie

# 6 Digital learning in a changed context for schools

From 12 March 2020, all primary and post-primary schools were closed as part of the Government's measures to halt the spread of the Novel Coronavirus, COVID-19. In order to minimise the impact on teaching and learning, all schools were asked to put arrangements in place to continue the delivery of education to learners.[12]

Existing Department of Education and Skills funded websites such as www.scoilnet.ie and www.webwise.ie were highlighted as resources to support schools to ensure the continuation of learning for learners. The Professional Development Service for Teachers (PDST) developed a new dedicated webpage of curated content to support schools and teachers engaged in distance learning: www.pdst.ie/distancelearning. In addition, on 22 April 2020, the Department announced a €10 million fund for schools for the purchase of technology and devices for disadvantaged learners.[13]

This chapter, which should be read as an addendum to *Digital Learning: Reporting on Practice in Early-Years, Primary and Post-Primary Contexts*, explores the use of digital technologies by schools and teachers to facilitate the continuation of learning in primary and post-primary schools during this period of school closure. The chapter has been primarily informed by the reported experiences of primary and post-primary principals who engaged in conversations with inspectors during April and early May 2020. These conversations were initiated to support principals and schools at this extraordinary time, to learn about how schools were managing to engage learners, and to record examples of good practice in ensuring continuity of learning.

The chapter also draws on the learning from two surveys, one with the parents of primary school children and the second with the parents of post-primary school students. The surveys were conducted by the Department of Education and Skills in collaboration with the National Parents' Council Primary (NPC-P). The surveys were conducted between 03 April and 07 April 2020, which was relatively early in the period of school closures.

This chapter highlights some of the good teaching and learning practices that schools have developed to facilitate the continuation of learning. It also highlights the challenges that have been experienced by schools, teachers and learners and it identifies a number of questions that warrant consideration by the education system.

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12    Letter from the Secretary General of Department of Education and Skills to principals and teachers on March 12

13    https://www.education.ie/en/Press-Events/Press-Releases/2020-press-releases/PR20-04-22.html

## 6.1  Emerging examples of good practice

The vast majority of principals (99.6%) indicated to inspectors that their school had maintained contact with learners about their learning and that the school had made assigned work available to learners. However, 71% of parents of primary school children who responded to the survey agreed that their child is well supported by the school to keep up with his/her work and 81% of parents of post-primary students who responded to the survey agreed that the school provides work in each subject every week.

Many schools have been creative in their responses to communicating with learners during this period of school closures and have adapted their teaching and learning practices to use platforms, applications and digital modes of learning. In the surveys of parents, 60% of primary respondents and 94% of post-primary indicated that their child was using digital technologies to engage with the school with regard to their learning.

For some schools, initial engagements with learners were by e-mail, using the school's website or by phone, to provide activities and tasks for learners. After these initial engagements, many schools recognised that they needed to improve their practice in this regard and to allow for two-way communication. The surveys of parents indicate that there are mixed practices with regard to the provision of feedback to learners. Just 43% of parents of primary children who responded agreed that their child received regular and practical feedback from their teacher on work completed, although the agreement rate amongst parents of post-primary students who responded was higher at 69%.  Since the surveys were conducted, many school principals reported to inspectors that they have tried to develop their feedback practices and this aspect of provision remains an important area for development.

Schools that had well-developed practices in the use of digital technologies were well positioned to transition to online platforms and applications that were already in use as part of their teaching and learning practices.

Principals reported to inspectors that a wide and varied range of online learning applications and platforms are now in use across the system. Examples of these include:

| | | |
|---|---|---|
| Accelerated Reader | Google Classroom | TED-Ed |
| Aladdin Connect | Microsoft Teams Office 365 | The School App |
| Class Dojo | Padlet | The school's own website |
| Edmodo | Quizlet | VS Ware |
| Facebook | Seesaw | |
| Flipgrid | Showbie | |

From inspectors' conversations with school principals, it is evident that many schools also realised that there was a need to facilitate conversations, small group engagements and virtual lessons, either live in real time or as recordings. Examples of the platforms used to facilitate these kinds of video engagements include:

| | | |
|---|---|---|
| Facebook Live | Microsoft Teams | WhatsApp |
| Google Classroom | Seesaw | YouTube |
| Go-to-Meeting | Skype | Zoom |

Below are six spotlights on good practice that inspectors learned about in their course of conversations with principals.

## SPOTLIGHT A

A two-teacher primary school in Connacht used the Microsoft Teams platform each day to provide a one-hour session where pupils logged on and the teachers provided brief lessons in literacy, numeracy and other areas of the curriculum. During this time, tasks were set and opportunities for the students to share what they had been working on were created. The students had the opportunity to speak with each other and the teacher during this time. These lessons were recorded and available online to support the students with their tasks and also for those who could not access the 'live' lesson.

## SPOTLIGHT B

A large mixed post-primary school in Munster was delivering its complete timetable online using Google Classroom. Teachers were hosting live classes where possible, or alternatively were providing pre-recorded classes or assigned work that could be completed during the time that the class would usually have taken place. The range of approaches allowed the different circumstances of the teachers to be taken into account.

## SPOTLIGHT C

A four-teacher primary school in Ulster was using the Seesaw app to communicate with parents, guardians and pupils. Pupils sent examples of their work back to the teacher who corrected it and sent feedback. In another similar sized school, this feedback was being recorded using audio, and the pupils heard the teacher's comments when their work was returned to them.

## SPOTLIGHT D

A large post-primary school in Leinster used Office 365 and Microsoft Teams extensively to assign and correct students' work. The school had adjusted its approach based on feedback from teachers as to what was working best and the principal emailed staff with tips as they emerged. Teachers could see when students had viewed or completed the assigned work and provided confidential feedback to each student.

## SPOTLIGHT E

A 24 teacher mixed primary school in Leinster used Zoom as a way of maintaining a sense of school community and sense of well-being. A weekly whole-school assembly was led by the principal. All teachers attended and parents received a link and access code by text from Aladdin. The class teachers also held a weekly Zoom lesson with their own classes and the Special Education Teacher (SET) teachers who worked with the class also attended. The focus of the session was on well-being / Social, Personal and Health Education (SPHE). They used the session to reinforce important messages, including about internet safety.

## SPOTLIGHT F

In one large post-primary school in the midlands, the year heads and guidance counsellors maintained contact with class groups by posting a short five-minute video on VS Ware each week. These videos were postive, encouraging and motivational, and gave important messages about wellbeing. Both year heads and guidance counsellors made themselves available throughout the week for one-to-one video calls on Skype and WhatsApp with students.

## 6.2  The Challenges

There have been many challenges associated with the sudden move to a distance-learning model, including delivering a balanced and manageable programme, ensuring that learners are not overwhelmed by information, meeting the needs of all learners and supporting the most vulnerable children and young people.

Some particular challenges relevant to the use of digital technologies in the current circumstances are outlined below.

### Connectivity

Some learners have experienced difficulties engaging with online platforms and applications because they live in areas that are not serviced by adequate broadband connectivity. In these instances, learners have been unable to engage with online materials that teachers are providing or their experience of learning is being impacted by the quality of their connection.

### The digital divide

Some learners have not been able to engage with learning because they do not own or have access to a suitable device in their homes, or because their families cannot afford to pay for dependable internet connection. In many instances the learners who experience this digital divide are from lower-income families and many live in areas that have been designated as socially and economically disadvantaged. Some schools have been in a position to try to address some of these inequalities by sending/providing data or devices to learners to support their access to learning.

### Schools that were in the early stages of engagement with digital technologies

For all schools, there was a significant challenge associated with moving to a distance-learning of learning, without much opportunity to adequately prepare. However, schools that had well-established practices and had developed whole-school approaches to the use of digital technologies, have found the transition somewhat easier. In many of these schools teachers were familiar with assigning and monitoring learning tasks and to providing feedback on work submitted digitally.

It has been more challenging for schools that have not embedded digital technologies in their teaching and learning practices. They did not have platforms or infrastructure in place to facilitate the changes required. Some have had to quickly develop their infrastructure, while others have not fully exploited the potential of digital technologies at this time of crisis. In these instances digital technologies are being used to simply set tasks and not to fully engage learners and provide feedback on completed work.

### Teacher confidence in digital learning

Many principals expressed the view that there are great variations amongst teachers in terms of their experience, confidence and capabilities to use digital technologies to support learning. Teacher confidence and CPD were issues raised for the system in *Digital Learning: Reporting on practice in Early-Years, Primary and Post-Primary Contexts*. The PDST provides a range of supports

for schools in the area of digital learning and quickly developed an online course aimed at helping teachers to teach and support learning online.

### Learner confidence in digital learning

In conversations with inspectors, principals spoke of some parents' concerns that their children are experiencing difficulties engaging in learning because both the learner and the parent had a lack of familiarity with applications or platforms. In schools that had existing digital learning practices, this issue was not as pronounced as learners were already familiar with the platform / application. Others schools moved quickly to create short videos and sent links to show parents and learners how to access and use platforms or applications.

### Safe and ethical use of technologies

A concern for many teachers and schools has been ensuring that learners are being kept safe in the online environment. Many schools and teachers have put safeguards in place when using some online applications, including updating the internet safety and acceptable use policies. Some schools have well-established programmes of learning about the safe and ethical use of digital technologies that draw on materials such as the DES funded website www.webwise.ie.

## 6.3 Issues for consideration by schools and the system

The report *Digital Learning 2020: Reporting on Practice in Early-Years, Primary and Post-Primary Contexts* makes recommendations and raises questions about the use of digital technologies as part of teaching and learning in Irish schools and settings. Many of these recommendations and questions overlap with the challenges that schools, teachers, learners and the system have recently faced while rapidly transitioning to a model of distance learning.

The four questions below will be important for all in the education system to consider:

- How can all schools be better prepared, in terms of their use of digital technologies, to allow effective learning to take place, when distance learning is required?

- What steps does the education system need to take to ensure that all learners have access to devices and adequate broadband?

- How can we ensure that all of our teachers have the necessary confidence, knowledge and skills to use digital technologies as part of effective teaching and learning, and for effective assessment and feedback purposes?

- How can we ensure that all learners have the necessary knowledge and skills to ensure that they are safe in the online environment and that they use digital technologies in an ethical way?

The potential and importance of digital learning and the use of digital technologies have come into sharper focus in light of recent experiences. A great many of our schools, teachers and learners have responded with great creativity and have embraced new platforms, applications and modes of learning. They have found innovative ways to communicate, collaborate with each other and continue with their learning. It will be important for all in the system to reflect on the positive practices in the use of digital technologies that have emerged during this period and to consider how they can become part of our regular teaching, learning and assessment practices. While there have been challenges, and this period will be one that is remembered with sadness by a great many, one of its legacies will surely be that digital technologies will be used as a more regular and integrated feature of teaching, learning and assessment in Irish classrooms.

# 7 Conclusions and recommendations

The evidence from inspection indicates that there are variations in the extent to which digital technologies are embedded in teaching and learning in schools and in ELC settings. Overall, it is evident that schools and individual teachers and practitioners have progressed the use of digital technologies as part of teaching and learning at different rates, and that much remains to be done across the system to develop guidance, practice and pedagogy in relation to the use of digital technologies.

Almost all schools in the 2019 sample had taken positive first steps to move practice forward. A significant majority of schools had created a digital learning plan.  There were many positive examples of practice in classrooms settings where digital technologies were integrated purposefully.

There were also examples of the use of digital technology in ELC settings. Further research and engagement with the ELC sector is needed in order to develop guidance as to what constitutes good practice in young children's use of digital technology within ELC settings. There are also examples of the use of digital technology by practitioners in recording observations of practice and as an additional support for communication with parents.

In a significant proportion of lessons in the 2019 sample (45% in primary schools and 38% in post-primary schools), digital technologies were not a feature of teaching and learning. A particularly interesting finding was inspectors' judgements that learning would have been enhanced if digital technologies were used in a majority of those lessons where digital technologies were not in use. While acknowledging that there are lessons, topics and times where digital technology is not necessarily the most appropriate approach, this finding nonetheless points to the fact that digital technologies are underutilised in many schools and classrooms.

The reasons for this apparent underuse and under-realisation of the potential of digital technologies vary from context to context. Some schools have not thought sufficiently about how they will integrate digital technologies and have not planned adequately for their use. The knowledge, experience and confidence of teachers in terms of digital technologies are all key factors. Some schools and ELC settings have difficulties with connectivity to high-speed broadband, while others cite a lack of resources. In the ELC sector, there is a need for additional policy advice and CPD supports in relation to the use of digital technologies in ELC settings.

The *Digital Strategy for Schools* presents a clear vision for the use of digital technologies in Irish schools and classrooms. The strategy does not reference the ELC sector. While *Aistear*, *the Early Childhood Curriculum Framework* refers to the possibility of using ICT and digital technologies

as part of learning, clear expectations for the use of digital technologies and policy guidance on the age-appropriate engagement by younger children are not available for the sector.

Despite many examples of effective practice noted in this evaluation, there is still some way to go towards realising the full potential of digital technologies to enhance teaching, learning and assessment so that Ireland's young people become engaged thinkers, active learners, knowledge constructors and global citizens participating fully in society and the economy.

## 7.1 Recommendations for the primary and post-primary sectors

- Schools should continue to work to make digital technologies an integrated feature of teaching, learning and assessment in all classrooms. Specifically, teachers should work to ensure that learners use digital technologies actively and in collaboration with other learners to support the assessment process and to create new content using digital technologies.

- Schools should plan for progression and development in the acquisition of digital competencies. Teachers' practice, at each class level, and across all disciplines, should build on learners' knowledge, skills and understanding in areas related to digital learning.

- Individual and collaborative digital tasks and activities should provide clear opportunities for learning and growth in the use of digital learning tools as part of a carefully planned programme for digital learning.

- In schools where engagement with digital technologies has been limited, teachers should begin by having conversations about what digital learning will look like in their context. Specific actions for changes in teaching and learning should be identified, and CPD for teachers should be linked to those actions.

- As schools engage with SSE, regardless of the area of focus, they should consider the opportunities that exist to include actions that involve digital technologies.

- Each school should plan for embedding digital learning to support its STEM education goals.

- Interdisciplinary approaches and project tasks should be exploited to engage children and young people in real-life problem solving using digital technologies. Integrating digital learning and collaborative project work should be part of the learners' experience right throughout their education.

- Schools should make greater use of Department of Education and Skills' funded resources such as www.scoilnet.ie and www.webwise.ie as they embed digital technologies. They should also avail of the CPD opportunities, including customised CPD available from the PDST to address the learning needs of teachers and the school's identified priority actions.[14]

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14   More details can be found at www.pdst.ie

## 7.2 Next steps for the early learning and care sector

There is not yet an agreed approach in relation to the use of digital technologies in the Irish ELC sector.

- Existing good practices in digital learning in the ELC sector should be supported and developed.

- As policy for the early learning and care sector evolves, guidance on the appropriate use of digital technologies that takes account of the learning and development of young children should be provided. In this regard, CPD and learning opportunities for ELC practitioners around whether and how to use digital technologies in ELC contexts will be important, paying due regard to differences according to the age of the child.

## 7.3  Recommendations for policy makers and providers of teacher CPD

- Consideration should be given to developing a strategy to succeed the *Digital Strategy for Schools* in order to ensure the continued development of digital learning across the system from 2020 onwards.

- Consideration will need to be given to what constitutes best practice around use of digital technology in ELC settings.

- Practitioners and teachers should be encouraged to share exemplars showing the effective use of digital technologies in ELC, primary and post-primary sectors.

- Continued efforts should be made across the education system to make schools and teachers aware of Department of Education and Skills funded resources, including the customised CPD opportunities available from PDST.

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Beverton Pre School / Roots and Wings, Co. Dublin

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Busy Beavers, Co. Kildare

Scoil Náisiúnta Mhuire, Co. Galway

St. Aidan's Parish School, Co. Wexford

Little Angels' Special School, Co. Donegal

Coláiste Mhuire, Co. Limerick

Loreto Abbey, Co. Dublin.

Coláiste Bhaile Chláir, Co. Galway

One of the objectives of the Action Plan for Education 2016-2019 was to increase the use of digital technologies in teaching, learning and assessment so that learners are equipped with the necessary skills and competencies to meet the challenges of a rapidly changing learning environment. This report presents the findings of an Inspectorate evaluation of digital learning during 2019 in a sample of early learning and care settings and primary and post-primary schools.

The report is designed to inform actions to ensure that national goals in relation to the use of digital technologies can be met. It is also intended to be a resource for education practitioners at early-years, primary and post-primary levels by providing illustrations of effective practices to support digital learning.

In addition, a chapter examines the role of digital technologies during the period of school closures as a result of COVID-19. Some of the emerging positive practices and challenges experienced are identified and explored.